As described in Applicant's specification, the traditional router has several potentially undesirable characteristics. First, an inbound port of a router typically has a <u>single inbound queue</u> associated therewith. Second, when a packet is forwarded, a <u>single packet</u> or <u>entry in the inbound queue</u> is transferred by an inbound controller to an outbound controller. Third, when the packet is received by the outbound controller, information associated with a <u>single packet</u> is stored in an outbound queue.

Each of the independent claims provides at least one of the following advantages or limitations over the prior art. First, a <u>plurality of inbound queues</u> is provided for a single inbound port. An inbound packet is therefore <u>classified</u> in one of the plurality of inbound queues to enable the inbound packet to be stored in the appropriate queue. Second, one of the plurality of inbound queues is transferred to an outbound controller and/or outbound queue capable of storing (or identifying) a multiplicity of inbound queues. In other words, a <u>queue of packets</u> rather than a single packet is transferred to the <u>outbound controller</u> and/or an associated <u>outbound queue</u>. Third, in some embodiments of the invention, it is possible to <u>encrypt an inbound queue</u> prior to transmission by an outbound controller. One or more of the above-described limitations are present in each of the claims.

For instance, independent claim 1 recites a method for providing an inbound controller for a router having an inbound port and an outbound port. More specifically, claim 1 recites, in relevant part, providing a plurality of inbound queues for an inbound port...classifying the inbound packet in a selected one of the plurality of inbound queues according to packet sorting criteria, storing the inbound packet in the selected one of the plurality of inbound queues, and determining when one of the plurality of inbound queues is ready to be moved to an outbound queue capable of storing a multiplicity of inbound queues.

Calvignac relates to a mechanism for transferring messages between source and destination users through a shared memory. See Title. More specifically, the mechanism is a device that includes a common bus to which a memory with a plurality of independent buffers, a memory interface and a central control apparatus are connected. The memory interface receives messages from source users, stores the messages in selected buffers and chains the buffers together. The central control apparatus generates inbound message queues and outbound message queues in response to commands which it receives from the memory interface. See Abstract.

Calvignac neither discloses nor suggests a mechanism for use with a router having at least one inbound port and at least one outbound port. Moreover, Calvignac neither discloses nor suggests a method for providing or implementing an inbound or outbound controller for a router.

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More particularly, Calvignac neither discloses nor suggests an "outbound queue that is capable of storing or otherwise identifying a plurality of inbound queues." Similarly, as the Examiner admits, Calvignac neither discloses nor suggests transferring one of the plurality of inbound queues to such an outbound queue. Rather, col. 12, lines 26-27 indicate that Calvignac merely discloses enqueueing a single message onto an outbound queue, and therefore teaches away from transferring or enqueueing an "entire queue of packets." In addition, the Examiner admits that Calvignac neither discloses nor suggests providing a plurality of inbound queues for an inbound port or classifying a packet in one of the plurality of inbound queues.

Kurita fails to cure the deficiencies of the primary reference. Kurita merely discloses a scheduling apparatus and scheduling method. Thus, Kurita neither discloses nor suggests one of the claimed methods of providing an inbound or outbound controller for a router. Moreover, Kurita fails to disclose the transferring of an entire queue to an outbound queue. On the contrary, col. 9, lines 43-45 indicate that a single-packet is "picked up" and transmitted. Therefore, Kurita also teaches away from the presently claimed invention.

With respect to independent claim 43, Finkelstein fails to cure the deficiencies of the primary references. More specifically, Finkelstein neither discloses nor suggests classifying an inbound packet in an inbound queue. As described above, an inbound packet is typically stored in an inbound queue associated with the appropriate inbound port, and therefore such classification is not required. Moreover, Finkelstein does not disclose encrypting an inbound queue. Rather, as disclosed in col. 6, line 52-col. 7, line 35, Finkelstein appears to disclose encrypting a single packet, and therefore teaches away from the claimed invention.

None of the references, separately or in combination, disclose or suggest the problems present in the prior art or the solutions presented by the presently claimed invention. Based on the foregoing, it is submitted that the independent claims are patentable over the cited references. In addition, it is submitted that the dependent claims are also patentable for at least the same reasons. The additional limitations recited in the independent claims or the dependent claims are not further discussed as the above discussed limitations are clearly sufficient to distinguish the claimed invention from the cited references. Thus, it is respectfully requested that the Examiner withdraw the rejection of the claims under 35 USC §103(a).

In view of the above, Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this amendment, the Commissioner is authorized to charge such fees to Deposit Account 50-0388 (Order No. CISCP054). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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